

Summary of Phosphorus Indices

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The following summary has been prepared based on a state-by-state review of the USDA-Natural Resources Conservation Service (USDA-NRCS) 590 Nutrient Management Practice Standard. All states listed below indicated in their 590 Nutrient Management Standard that a Phosphorus (P) Index has been selected as at least one method to address P management. The P Index implementation in these states is conducted in accordance with the USDA-NRCS implementation schedule. All state USDA-NRCS 590 standards can be obtained through the e-Tech Guide located at <http://efotg.nrcs.usda.gov/>.

State	Contact University or Agency	Phosphorus Index Reference
Alabama	Alabama USDA-NRCS	U.S. Department of Agriculture-Natural Resource Conservation Service. 2001. Phosphorus index for Alabama: A planning tool to assess and manage P movement. USDA-NRCS Agronomy Technical Note AL-72. Auburn, Alabama USA.
Alaska	Alaska USDA-NRCS	U.S. Department of Agriculture-Natural Resource Conservation Service. 2001. The Alaska phosphorus index. USDA-NRCS Technical Note Agronomy-14. Palmer, Alaska USA.
Arizona	Arizona USDA-NRCS	Walther, D., R. Flynn, M. Sporcic, and L. Scheffe. 2000. Draft phosphorus assessment tool for Arizona. USDA-NRCS Technical Note 57. Phoenix, Arizona.
Arkansas	University of Arkansas	DeLaune, P.B., P.A. Moore Jr., D.E. Carman, T.C. Daniel, and A.N. Sharpley. 2001. Phosphorus Index for Pastures. University of Arkansas, Fayetteville, AR.
Colorado	Colorado USDA-NRCS	Sharkoff, J.L., R.M. Waskom, and J.G. Davis. 2000. Colorado phosphorus index risk assessment. USDA-NRCS Agronomy Technical Note CO-95. Lakewood, Colorado USA. (Available on-line at http://www.co.nrcs.usda.gov/ecs/technotes/coatn_95.pdf , verified 3 September 2002).
Delaware	University of Delaware	Sims, J.T. and A.B. Leytem. 2002. The Phosphorus Index: a phosphorus management strategy for Delaware's agricultural soils. Fact Sheet ST-05, Delaware Cooperative Extension Service, Newark, DE.
Florida	Florida USDA-NRCS	U.S. Department of Agriculture-Natural Resource Conservation Service. 2000. The Florida phosphorus index. Florida Agronomy Field Handbook, Chapter 1, Exhibit 9. Gainesville, Florida USA. (Available on-line at http://www.fl.nrcs.usda.gov/flgeneral/pifinal.pdf , verified 30 August 2002.)
Georgia	University of Georgia; Georgia USDA-NRCS; USDA-ARS, Tifton, Georgia	Cabrera, M.L., D.H. Franklin, G.H. Harris, V.H. Jones, H.A. Kuykendall, D.E. Radcliffe, L.M. Rice, and C.C. Truman. 2002. The Georgia phosphorus index. Cooperative Extension Service, Publications Distribution Center, University of Georgia, Athens, Georgia, 4 pp.
Hawaii	Not Available	Not Available
Idaho	Not Available	Not Available
Illinois	Illinois USDA-NRCS	USDA-NRCS. 2002. Illinois phosphorus index procedure: Use and interpretation of the Illinois phosphorus assessment procedure. USDA-NRCS conservation practice standard: Nutrient management code 590. Champaign, Illinois.
Indiana	Not Available	Not Available

Iowa	Iowa USDA-NRCS	U.S. Department of Agriculture-Natural Resource Conservation Service. 2001. Iowa phosphorus index. USDA-NRCS Technical Note 25. Des Moines, Iowa USA. (Available on-line at http://www.ia.nrcs.usda.gov/Technical/Phosphorus/phosphorusstandard.htm ; verified 30 August 2002.)
Kansas	Not Available	Davis, B., G.M. Pierzynski, F. Vocasek, L. Freese, and G. Keeler. 1999. Nutrient management in Kansas. In SWCS abstracts, St. Louis, MO. 8-12 July 2000. SWCS, Ankeny, Iowa. (Available on-line at: http://www.swcs.org/t_publicaffairs_nutmgmt_kansas.htm ; verified 6 November 2002).
Kentucky	Kentucky USDA-NRCS	U.S. Department of Agriculture-Natural Resource Conservation Service. 2001. Kentucky phosphorus (P) matrix. USDA-NRCS Conservation practice standard: Nutrient management code 590. Lexington, Kentucky USA.
Louisiana	Louisiana USDA-NRCS	U.S. Department of Agriculture-Natural Resource Conservation Service. 2000. Phosphorus site index for Louisiana. USDA-NRCS Conservation practice standard: Nutrient management code 590. Alexandria, Louisiana USA.
Maine	Maine USDA-NRCS	U.S. Department of Agriculture-Natural Resource Conservation Service. 2001. Environmental assessment and manure allocation tool. USDA-NRCS Conservation practice standard: Nutrient management code 590. Bangor, Maine USA.
Maryland	University of Maryland	Coale, F. 2000. The Maryland phosphorus site index: An overview. Soil Fertility Management SFM-6. University of Maryland, College Park, MD USA. (Available on-line at http://www.agnr.umd.edu/MCE/Publications/Publication.cfm?ID=537 ; verified 30 August 2002).
Michigan	Michigan USDA-NRCS	Grigar, J., D. Pahl, and R.D. von Bernuth. 2002. Instructions for using MARI on Excel. (Available on-line at http://www.maeap.org/resources.htm#3 ; verified 30 October 2002.)
Massachusetts	Not Available	Not Available
Minnesota	Minnesota USDA-NRCS	U.S. Department of Agriculture-Natural Resource Conservation Service. 2001. Phosphorus loss potential and manure application rates. USDA-NRCS Conservation practice standard: Nutrient management code 590. St. Paul, Minnesota USA.
Mississippi	Mississippi USDA-NRCS	U.S. Department of Agriculture-Natural Resource Conservation Service. 2000. Phosphorus index rating. USDA-NRCS Conservation practice standard: Nutrient management code 590. Jackson, Mississippi USA.
Missouri	Not Available	Not Available
Montana	Montana USDA-NRCS	Fasching, A. 2001. Phosphorus index assessment fro Montana. USDA-NRCS Technical Note Ecological Sciences Agronomy MT-77. Bozeman, Montana USA.
Nebraska	Nebraska USDA-NRCS	Kucera, M. 2000. Assessing and managing phosphorus loss for manure management. USDA-NRCS Agronomy Technical Note Draft. Lincoln, Nebraska USA.
Nevada	Not Available	Not Available
New Hampshire	New Hampshire USDA-NRCS	U.S. Department of Agriculture-Natural Resource Conservation Service. 2001. Phosphorus index calculation sheet. USDA-NRCS Conservation practice standard: Nutrient management code 590. Durham, New Hampshire USA.
New Jersey	New Jersey USDA-NRCS	U.S. Department of Agriculture-Natural Resource Conservation Service. 2001. New Jersey phosphorus index for typical crop production systems. USDA-NRCS Conservation practice standard: Nutrient management code 590. Somerset, New Jersey USA.

New Mexico	New Mexico USDA-NRCS	Flynn, R., M. Sporcic, and L. Scheffe. 2000. Draft Phosphorus Assessment Tool. USDA-NRCS Technical Note Agronomy-57. Albuquerque, New Mexico USA. (Available on-line at http://www.nm.nrcc.usda.gov/techserv/TechNotes/agro.htm ; verified 12 July 2002.)
New York	Cornell University	Czymbmek, K.J., Q.M. Ketterings, and L. Geohring. 2001. Phosphorus and Agriculture VII: The new phosphorus index for New York State. What's Cropping Up? 11 (4): 1-3. (Available on-line at http://www.css.cornell.edu/nmsp/projects/pindex.asp ; verified 30 August 2002).
North Carolina	North Carolina State University	Havlin, J., S. Hodges, D. Osmond, A. Johnson, D. Crouse, W. Skaggs, R. Evans, J. Parsons, P. Westerman, L. Price, and R. Reich. 2002. Assessing the risk of phosphorus delivery to North Carolina waters. In Proc. of ASAE Annual International Meeting, Chicago, IL. 28-31 July 2002. ASAE, St. Joseph, MI. (Available on-line at: http://www3.bae.ncsu.edu/SW21/P-session 64/P-session-64-asae2002.pdf ; verified 6 November 2002).
North Dakota	North Dakota, USDA-NRCS	U.S. Department of Agriculture-Natural Resource Conservation Service. 2002. North Dakota phosphorus index screening tool. USDA-NRCS Technical Guide Notice ND-9. Bismarck, North Dakota USA.
Ohio	Ohio, USDA-NRCS	U.S. Department of Agriculture-Natural Resource Conservation Service. 2002. Phosphorus index risk assessment procedure worksheet. USDA-NRCS Ohio Field Office Technical Guide Section 1.Columbus, Ohio USA.
Oklahoma	Oklahoma, USDA-NRCS	U.S. Department of Agriculture-Natural Resource Conservation Service. 2001. Oklahoma phosphorus assessment worksheet. USDA-NRCS Conservation practice standard: Nutrient management code 590. Stillwater, Oklahoma USA.
Oregon	Oregon, USDA-NRCS	U.S. Department of Agriculture-Natural Resource Conservation Service. 2001. The phosphorus index. USDA-NRCS Agronomy Technical Note 26. Portland, Oregon USA. (Available on-line at ftp://ftp.or.nrcc.usda.gov/pub/agronomy/Phosphorus_Index/ ;verified 30 October 2002).
Pennsylvania	USDA-ARS (PSWMRU); The Pennsylvania State University	Weld, J.L., D.B. Beegle, W.J. Gburek, P.J.A. Kleinman, and A.N. Sharpley. 2003. The Pennsylvania phosphorus index: Version 1. Publications Distribution Center, Pennsylvania State University, University Park, PA. (Available on-line at panutrientmgmt.cas.psu.edu ; verified 21 December 2003).
Rhode Island	Rhode Island, USDA-NRCS	U.S. Department of Agriculture-Natural Resource Conservation Service. 2001k. Rhode Island phosphorus index (RIPI). USDA-NRCS Rhode Island Field Office Technical Guide Section II. Warwick, RI USA.
South Carolina	South Carolina USDA-NRCS	U.S. Department of Agriculture-Natural Resource Conservation Service. 2001l. The phosphorus index: South Carolina. Agricultural waste management field handbook, Chapter 11, South Carolina Supplement 2. Columbia, South Carolina USA.
Tennessee	Tennessee USDA-NRCS	U.S. Department of Agriculture-Natural Resource Conservation Service. 2001m. Tennessee phosphorus index: A planning tool to assess and manage P movement. USDA-NRCS Nashville, Tennessee USA.
Texas	Texas USDA-NRCS	U.S. Department of Agriculture-Natural Resource Conservation Service. 2000. Phosphorus assessment tool for Texas. USDA-NRCS Agronomy Technical Note Number -15. Temple, Texas USA.
Utah	Utah USDA-NRCS	Goodrich, K.I., R.T. Koenig, S.D. Nelson, L.L. Young, N.P Hansen, and J.W. Hardman. 2000. A procedure for determining best management practices for spreading of manure on agricultural land in Utah, the Utah manure application risk index (UMARI).USDA-NRCS Salt Lake City, Utah.

Vermont	University of Vermont	Jokela, W.E. 2000. A phosphorus index for Vermont. P. 302-315. <i>In proc. From Managing nutrients and pathogens from agriculture.</i> Camp Hill, PA. 28-30 Mar., 2000. NRAES-130. Ithaca, NY.
Virginia	Virginia Tech	Mullins, G., M.L. Wolfe, J. Pease, L. Zelazny, L. Daniels, M. Beck, M. Brosius, A. Vincent, and D. Johns. 2002. Virginia phosphorus index version 1 technical guide. Virginia Polytechnic Institute and State University, Blacksburg, VA USA.
Washington	Washington USDA- NRCS	U.S. Department of Agriculture-Natural Resource Conservation Service. 2001. The phosphorus index. USDA-NRCS Water Quality Technical Note 2. Spokane, Washington USA.
West Virginia	West Virginia USDA-NRCS	U.S. Department of Agriculture-Natural Resource Conservation Service. 2002. Phosphorus index for nutrient management. USDA-NRCS Conservation practice standard: Nutrient management code 590. Morgantown, West Virginia USA.
Wisconsin	University of Wisconsin, Madison	Jarrell, W. and L. Bundy. 2002. The Wisconsin phosphorus index. University of Wisconsin Madison, WI USA. (Available on-line at: http://wpindex.soils.wisc.edu/index.html ; verified 4 November 2002).
Wyoming	Wyoming USDA-NRCS	U.S. Department of Agriculture-Natural Resource Conservation Service. 2002. The phosphorus index. Section 12- Nutrient basis for manure application rates Wyoming comprehensive nutrient management plan workbook. Casper, Wyoming USA.